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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,254	09/30/2003	Hitoshi Kosugi	241051US6YA	2850
22850	7590	08/14/2006		
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER HUSBAND, SARAH E	
			ART UNIT 1746	PAPER NUMBER

DATE MAILED: 08/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/673,254

Applicant(s)

KOSUGI, HITOSHI

Examiner

Sarah E. Husband

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-12 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/24/2006 has been entered.

### *Response to Arguments*

Applicant's arguments filed 5/24/2006 have been fully considered but they are not persuasive. Applicant has argued that the newly incorporated limitation of the "cross-connect" is not supported by the art of record. This is not found persuasive for the reasons discussed in the following art rejection.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12 and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has amended the claims to include the

limitation of a "cross-connect". Applicant has also stated that the support for the amendment is found in Fig. 4. However, Figure 4 appears to disclose a branched tubing. There is no support for a cross-connect in the description and a commonly accepted definition is not present in the art. Therefore, because of the lack of support in the specification, this amendment is considered to be new matter.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 7, 8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe (US Patent No. 6,745,784) in view of Oh (US Patent No. 6,751,824).

Katakabe discloses the substrate rinsing assembly having a first nozzle array including at least one nozzle positioned over a center of the substrate (Fig. 2, Item 24) and a second nozzle array having a plurality of nozzles positioned to direct fluid across the span of the substrate (Fig. 2, Item 26, col. 4, ll. 29-60, 63-64). Katakabe also discloses the substrate is rotated (Fig. 1), the rinse solution is deionized water (col. 8, ll. 38-50). Katakabe further discloses that the deionized water can be applied to the front and back of the wafer simultaneously to rinse the wafer. Therefore, although not specifically stated, in order to fully rinse the wafer, one of ordinary skill in the art would immediately foresee using all of the nozzles to clean the wafer with deionized water. And also, when using the same fluid in

all of the nozzles, it would also be obvious to one of ordinary skill in the art to use a common tubing means (cross-connect) for the benefit of reducing the number of parts. Katakabe does not specifically disclose having valves in connection with the fluid supplies and nozzles. However, valves are well known in the art and Katakabe discloses stopping and controlling the various fluid applications (see entire document and col. 8, ll. 36-31). One of ordinary skill in the art would immediately foresee the necessity of valves to properly operate the rinsing assembly and Oh discloses this by showing valves in connection with the water supply and nozzle (Fig. 1). Oh also discloses a filter present on the water supply line. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Katakabe with Oh for the benefit of controlling the flow of the solution to enable proper operation of the rinsing assembly.

Claims 1 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe in view of Riedel (US Patent No. 6,817,369).

Katakabe discloses the apparatus described above in the previous 103(a) rejection (see previous citations). Katakabe does not specifically disclose valves associated with the various nozzles. Riedel discloses a cross-connect between two nozzles and valves associated with each of these nozzles (see Fig. 6, Items 421, 420, 422). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Katakabe with Riedel for the benefit of accurately controlling the application of fluid to the wafer.

Claims 2 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katakabe and Oh as applied to claims 1, 3-8 and 26 above, and further in view of Mandal (US Patent No. 6,770,424).

Katakabe and Oh disclose the substrate rinsing apparatus as shown above in the 103(a) rejection. They do not specifically disclose a controller. Mandal discloses a controller controlling the rotation of the wafer and the amount of fluid dispensed (Fig. 4, Item 46). At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Katakabe and Oh with Mandal for the benefit of being able to properly control the functions of the wafer rinsing apparatus.

### *Conclusion*

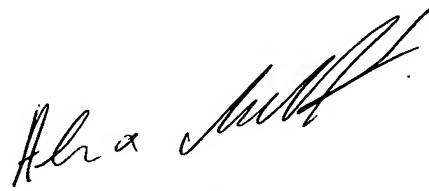
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah E. Husband whose telephone number is (571) 272-8387. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1746

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SEH



ALEXANDER MARKOFF  
PRIMARY EXAMINER